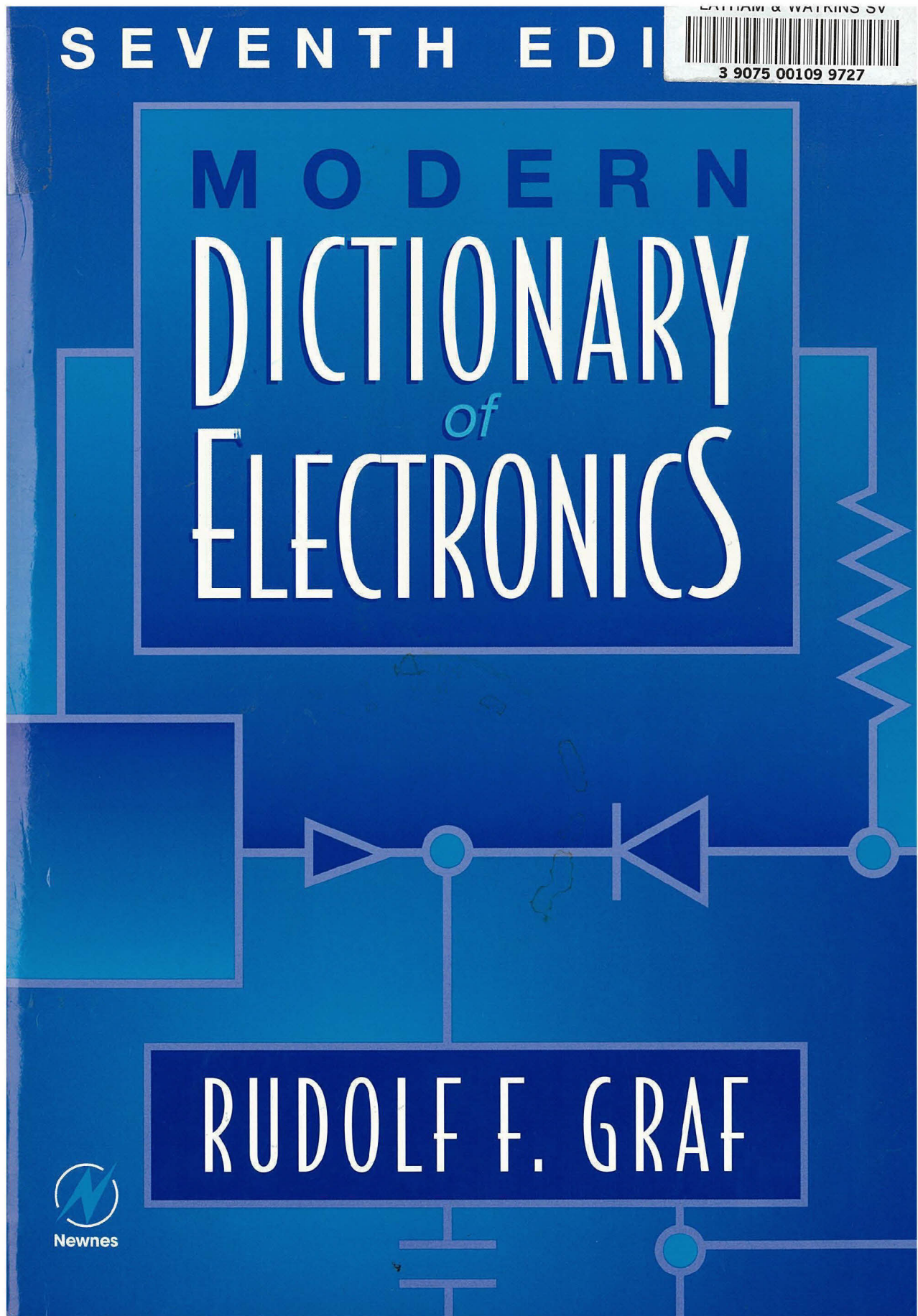


EXHIBIT 2



**MODERN
DICTIONARY
of
ELECTRONICS**

**SEVENTH EDITION
REVISED AND UPDATED**


Rudolf F. Graf



Boston Oxford Auckland Johannesburg Melbourne New Delhi

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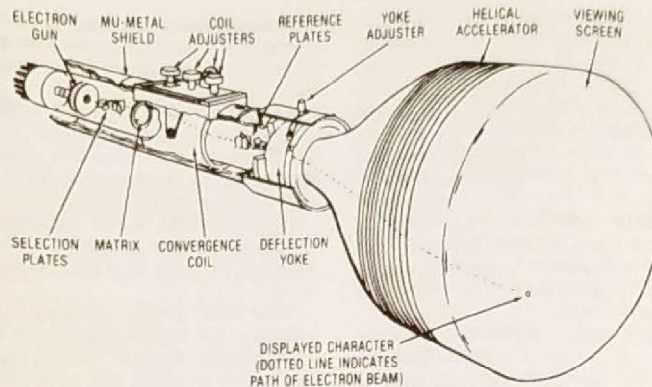
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charge density — checkpoint routine



Charactron.

charge density—The charge per unit area on a surface, or charge per unit volume in space.

charged particle—An ion, an elementary particle that carries a positive or negative electric charge.

charge injection device—See CID.

charge injection imaging device—See CID.

charge offset—During the sample-to-hold transition of a sample/hold circuit, the charge transferred to the holding capacitor because of the switching process. It is usually expressed in millivolts.

charger—A device used to convert alternating current into a pulsating direct current that can be used for charging a storage battery.

charge retention—The ability of a battery to hold its energy once it has been charged.

charge-storage tube—A storage tube that retains information on its surface in the form of electric charges.

charge transfer—The process in which an ion takes an electron from a neutral atom of the same type, with a resultant transfer of electronic charge.

charging—1. The process of converting electrical energy to stored chemical energy. 2. The process of storing electrical energy in a capacitor.

charging current—The current produced when a dc voltage is first applied to a capacitor. This current decreases exponentially with time.

charging rate—1. The rate of current flow used in charging a battery. 2. The rate at which charging current flows into a capacitor or capacitance-resistance circuit. Expressed in amperes, milliamperes, or microamperes.

chart recorder—A data recorder that provides a record of the values of a physical parameter, in the form of a graph on a piece of chart paper, either with respect to time or to some other variable. The recording system consists of essentially three elements: a transducer to convert the variable to be measured (temperature, pressure, rpm, etc.) into an electrical signal, a signal conditioner to process the signal into a form such that it may be recorded, and the recording device.

chaser—1. An array of elements similar to a ring except that as each successive element is switched to the "on" condition, the others remain on as well; when all stages are on, the next pulse turns them all off and the process generally repeats. 2. A repeat-cycle flasher with three or more outputs each operating in sequence to the other. Normally used on signs or displays to create a moving effect.

chassis—1. A sheet-metal box, frame, or simple plate on which electronic components and their associated

circuitry can be mounted. 2. The entire equipment (less cabinet) when so assembled. See also printed circuit board.

chassis ground—A connection to the metal structure that supports the electrical components that make up the unit or system.

chat rooms—Areas on an online service, BBS, or the Internet that allow real-time, typed-in communication with other people.

chatter—1. A sustained rapid opening and closing of contacts due to variations in the coil current. 2. The vibration of a cutting stylus in a direction other than the direction in which it is driven.

chattering—Rapid audible cyclic action within an electromechanical device.

chatter time—The interval of time from initial actuation of a contact to the end of chatter.

cheater cord—An extension cord used to conduct power to a piece of equipment (especially a TV) by temporarily bypassing the safety interlock connector.

check—The partial or complete verification of the correctness of equipment operations, the existence of certain prescribed conditions, and/or the correctness of results.

check bit—1. A binary check digit. 2. The bit that is automatically added by the computer to an item of data when it is necessary to make it either even or odd parity. Synonym: parity bit.

check character—A character used to perform a check.

check digit—A digit added to each number in a coding system that allows for detection of errors in the recording of the code numbers. Through the use of the check digit and a predetermined mathematical formula, recording errors, such as digit reversal, can be noted.

checkerboard—See worst-case noise pattern.

checking code—Machine instructions that read part of a diskette to determine whether it has been copied.

checkout—A series of operations and calibration tests used to determine the condition and status of a system or element of the system.

checkpoint—1. In a computer routine, a point at which it is possible to store sufficient information to permit restarting the computation from that point. 2. The status of a long-running program is often recorded at frequent intervals called checkpoints. If something goes wrong, the program can be restarted at its last checkpoint instead of from the beginning.

checkpoint routine—A computer routine in which information for a checkpoint is stored.

MS-DOS — multidrop line

MS-DOS — Abbreviation for Microsoft Disk Operating System. The operating system for the IBM PC and compatible personal computers.

msec — Abbreviation for millisecond.

MSI — Abbreviation for medium-scale integration. A term generally applied to integrated circuit chips containing 10 or more gate equivalents, but less than 100. Also applies to memory devices with fewer than 1 K (1024) bits of memory.

MSI- or LSI-component processor — A processing unit built around medium-scale and/or large-scale integrated circuits, as opposed to one built around a monolithic processor, such as a microprocessor.

MSS — Abbreviation for mobile-satellite service. A service that links mobile earth stations with base stations and with one another via one or more satellites.

M-S stereo system — See mitte-seite stereo system.

MT — Also called MTST. The IBM magnetic tape Selectric typewriter.

MTBF — Abbreviation for mean time between failures.

MTE — Abbreviation for miles to empty. An electronic digital dashboard readout that indicates the number of miles to drive before the gas tank is empty (Ford Motor).

MTI — Abbreviation for moving-target indicator.

MTNS — Abbreviation for metal-thick-nitride semiconductor.

MTOS — Abbreviation for metal-thick-oxide semiconductor.

MTS — Abbreviation for message telecommunications service. 1. Services available to the public over the nationwide switched network. An interstate call is one example. 2. The official name for long-distance or toll service.

MTTF — Abbreviation for mean time to failure.

MTTFF — Abbreviation for mean time to first failure.

MTTR — Abbreviation for mean time to repair. Average time to repair a failure under the operating conditions encountered.

M-type backward-wave oscillator — A cross-field injected-beam oscillator. The electrons in this device interact with an rf wave traveling backward or opposite to the electron beam. It is efficient, broadband, and can be tuned. It is also insensitive to load variations.

μ — English spelling for the Greek letter μ .

μ — Greek letter mu. 1. Symbol for amplification factor. 2. Symbol for permeability. 3. Letter symbol for the micro- (10^{-6}).

μA — Letter symbol for microampere.

μA circuit — In a feedback amplifier, the circuit that amplifies the vector sum of the input signal and the feedback portion of the output signal in order to generate the output signal.

MUF — Abbreviation for maximum usable frequency.

mu-factor — Ratio of the changes between two electrode voltages, assuming the current and all other electrode voltages are maintained constant—i.e., it is a measure of the relative effect that the voltages on two electrodes have on the current in the circuit of a specified electrode.

μH — Letter symbol for microhenry.

muldem — Acronym for *multiplexer/demultiplexer*.

Muller tube — A thermionic vacuum tube having an auxiliary cathode or grid connected internally to the main cathode through a high-value resistor.

multiaddress — Pertaining to computer instructions that specify two or more addresses.

multianode microchannel array detector — A photon-counting array for use in both space-borne and

ground-based photometric and spectroscopic instrumentation. The resulting tubes use opaque photocathodes, feedback-free microchannel plates, proximity-focused multianode readout arrays, and multilayer ceramic headers.

multianode tank — See multianode tube.

multianode tube — Also called multianode tank. An electron tube having two or more main anodes and a single cathode.

multiaperture reluctance switch — A two-aperture ferrite storage core that may be used to provide a nondestructive-readout memory for a computer.

multiband antenna — An antenna usable at more than one frequency band.

multicasting — Broadcasting a stereo program by using two FM stations. Two FM receivers are required.

multicavity magnetron — A magnetron in which the circuit has more than one cavity.

multicellular horn — A cluster of horns with juxtaposed mouths lying in a common surface. The cluster controls the directional pattern of the radiated energy.

multichannel radio transmitter — A radio transmitter having two or more complete radio-frequency portions capable of operating on different frequencies, either individually or simultaneously.

multichannel R/C — A radio-control installation that employs tuned reeds to supply several control functions. The basic carrier frequency remains the same, but different tones make possible a number of control channels.

multichannel sound — A system of stereo sound transmission for TV applications. Approved in early 1984 by the FCC, it is AM double-sideband for stereo L-R and operates on a 15,734-Hz pilot carrier, which is doubled to 31,468 Hz for stereo. Multichannel sound also contains higher-frequency carriers for SAP (second audio program) and professional channel(s).

multichip circuit — A microcircuit in which discrete, miniature active electronic elements (transistors and/or diode chips) and thin-film or diffused passive components or component clusters are interconnected by thermocompression bonds, alloying, soldering, welding, chemical deposition, or metallization.

multichip integrated circuit — 1. An integrated circuit whose elements are formed on or within two or more semiconductor chips that are separately attached to a substrate. See also integrated circuit. 2. Hybrid integrated circuit that includes two or more SIC, MSI, or LSI chips. 3. An electronic circuit in which two or more semiconductor wafers that contain single elements or simple circuits are interconnected and encapsulated in a single package to give a more complex circuit.

multichip microcircuit — A microcircuit whose elements are formed on or within two or more semiconductor chips that are attached separately to a substrate.

multiconductor — More than one conductor within a single cable complex.

multicoupler — A device for connecting several receivers to one antenna and properly matching their impedances.

multidrop — A telephone line configuration in which a single transmission facility is shared by several end stations.

multidrop line — Also called a multipoint line. 1. A communication system configuration using a single channel or line to serve multiple terminals. Use of this type of line normally requires some kind of polling mechanism, addressing each terminal with a unique identification. 2. A communication line with several subsidiary controllers sharing time on the line under a central site's control.